THE

HORTICULTURAL REGISTER

AND

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CANTUA CORONOPIFOLIA, of Willdenow.

Ipomopsis Elegans, *of Michaux.*

We re-publish from the New England Farmer a communication on the subject of this plant, for the purpose of introducing to our friends a colored figure of the flower; our sheet confines us merely to a side spray, as we prefer giving it of the natural size, rather than a much diminished representation of the whole plant. That from which this drawing was taken grew seven feet high, the centre spike covered every morning with fresh flowers, and surrounded by six or seven of these side branches rising from about half the height of the plant, forming altogether a splendid ornament to the garden. Mr Nuttall, who is no mean authority on the indigenous plants of America, states that this is perhaps the most splendid and elegant plant in the United States.

It seems to have been known in Europe as early as 1726, being originally brought from Peru, and receiving its present appellation of Cantua from the native name Cantu — but remained a rare plant until recently introduced from Carolina where it has been found wild. It certainly deserves room in every collection of plants, even where beauty alone is the object, it belongs to the Pentandria monogynia class of Linnæus (or five stamened and one pistilled) — and to the family of Polemoniaceæ in the Natural arrangement.

"Last spring, a distinguished lover and promoter of horticulture in Boston presented me with seeds of a beautiful flowering biennial plant

from Georgia, Cantua coronopifolia, which here as well as in Europe has been treated as a tender plant, requiring the protection of glass during winter. It appeared to me from its structure, being covered with a soft down and some other indications, to be a fit plant for an experiment on acclimation;" — with this view I proceeded as follows:

Ten plants remained entirely exposed during the winter on a perfectly open spot — these are without exception flourishing.

One plant placed on a grass bank facing the south and protected from the north wind — is also flourishing, but began to vegetate rather earlier than the preceding, and is now a very fine plant.

Ten plants I covered the roots three inches with hay, and raised a bank of turf all round one foot high six inches wide; this I covered with straw; these all died, having perished at the surface of the earth where covered with the hay, the tops still remaining green.

Two plants, I placed in pots and kept in the parlor; these were much drawn or etiolated as the botanists term it; on exposure to the winds in April one was killed, the other remains alive, but is by no means so strong as those which remained exposed, although much taller.

I do not know that physiological botanists have yet undertaken the examination of the structure of plants with a view to their different sensibilities of temperature, and it is certainly a subject rather difficult to approach — but much may be done in this way by the collection of such facts as the preceding. Besides every addition to the number of hardy flowering plants is an addition to the pleasure of those horticulturists whose means do not place them in possession of glass structures for protecting them during the winter.

Most truly yours, J. E. T.

[For the Horticultural Register.]

REMARKS ON RAISING NEW VARIETIES OF PINKS.

Being unaccustomed to write for the press, a very plain statement only can be expected, but it may be depended on as the result of long experience.

The effects of impregnation or in other words of assisting nature in improving and diversifying the common pink, Dianthus caryo-

phyllus may appear to some a work of great labor and minuteness. In the case of fruits, it requires many years before the effects of impregnation can be ascertained; but with the pink it does not require more than two years before a splendid collection may be obtained. It is necessary in almost all other genera to divest the flower of its own stamina at an early stage of growth, but the pink being naturally defective in stamina this is not requisite, so that a great many plants may be impregnated in a very short time — all that is necessary is merely to put the antheræ, which contain the pollen of the single flower, in contact with the pistil of the multiplicate or nearly double flower, shedding some of this pollen on it. When the seedlings have come into bloom look carefully over them, and of the single only preserve those with good color and leaf, throwing the others away to afford more room for those selected for impregnation.

In all my experiments I have found that the best and surest method of procuring seed that will vegetate is to use this artificial impregnation, and by no means to trust to nature, although many of the multiplicate flowers may be found possessed of stamina and antheræ.

My desire to see this beautiful flower more generally cultivated by the American florist has induced me to offer these few observations, in hopes that the ensuing season will not be suffered to pass without many of the lovers of flowers trying the experiment.

ROBERT MURRAY,
Gardener to Messrs Winship, Brighton, Mass.

We recommend an attentive perusal of the following communication, not only on account of the information it contains, but also because it is a perfect example of the success which usually attends acute and intelligent observation and reasoning combined with real practice.—T. G. F.

[For the Horticultural Register.]

ON THE CULTIVATION OF ASPARAGUS.

HAVING had considerable experience in the cultivation of asparagus, and been so far successful as to ráise it nearly two inches in diameter, or between five and six inches in circumference, some of which I exhibited at the Massachusetts Horticultural Society, in the spring of 1833, and which obtained the Society's premium for the largest and best asparagus: having, also, for several years past sold

in Quincy market from seventeen to twentyfive cents the bunch, when the same sized bunches of the common kind were selling from six to ten cents, I am induced at this time to inform you and the public of my method of growing this delicious vegetable. I sow the seed in the same manner and time with blood beets in the spring, preparing the ground in the same way, as the young or seedling plants will thrive in soil that will grow good beets. I generally sow, and think it the best way, one row of beets and another of asparagus alternately, one foot asunder, which brings the beet rows two feet apart, the proper distance for this vegetable.

As asparagus makes a very small growth the first season it will not in the least interfere with the beet crop; on the other hand, I think it is rather an advantage to the growth of asparagus, as the large leaf of the former serves to protect the weak and slender shoot of the latter.

The nature of the plants likewise differs so materially, one having a long tap root, calculated to draw deep from the soil, the other very small fibrous roots, which invariably, in this plant more than any I have observed, draw juices from the surface; in this case neither draws food from the other, as is apt to be the case when different vegetables, of the same habits and wants grow near each other.

The second season after sowing it will be necessary for the asparagus to occupy the whole ground, the rows being two feet apart, a very proper distance; as the plant makes a large growth the second year, they may stand in the seed rows within an inch of each other. By the above method I have raised from 2 to 5000 roots a year, which I have sold.

In choosing and preparing the ground for putting down an asparagus bed, as it is called, I select a piece of ground that has been under tillage the year previous; a sandy loam if I have it; if not, I add sand, the washings of roads or other materials, to bring it as near the nature of the above named soil as possible. I then plough very deep if the soil will admit, 10 inches or more; cart on and spread about twenty cart loads of manure, or in that proportion to the acre. I prefer fresh or unfermented horse manure for this as well as for most other crops. After this, cross-plough not quite so deep as before, and trench furrow by running a plough both ways in the same furrow, four feet apart; clear out the trenches with a shovel ten inches deep and one foot wide at the bottom, throwing the earth into ridges between the rows as even as possible; lastly, I draw in from

the sides of the trenches a small quantity of fine earth, about one inch deep, levelling it with the hoe as it is drawn in, and the ground is prepared for planting. It is very important that the roots should be taken up carefully and exposed as little to the sun and air as possible previous to planting. My method is to start them from the seed bed and put them under cover or into the cellar as soon after digging as possible; then part the roots, which come up in bunches, snarled together, cut off the fingers (so I name the roots) that are broken and ragged and pack them away in meadow moss until I am ready for planting, which is performed as follows: The roots are taken to the field in a basket, packed in moss, and lifted out as you plant, placing them in a straight line on the bottom of the trench, from twelve to fourteen inches apart, taking hold of the crown of the root and pressing it gently down, carefully spreading the roots or fingers horizontally in every direction, as the roots of asparagus naturally grow horizontal—and the fibres or feeders extend upwards to the surface; this I ascertained by examining a bed that had been hoed after cutting time, in June, immediately before a smart shower. The surface of the earth was literally covered with small white fibrous roots. As the bed was situated at the brow of a large hill, a part of it was gullied by the water in one or two places below the main roots, where I had a fine opportunity to examine both roots and fibres. There were few, if any fibres two inches below the main roots, notwithstanding that the bed was put down according to the old method, deep trenching, and filling in six inches below the roots with good rotten manure, which I found safely deposited in rather a decomposed state, having laid several years without being disturbed either by roots, fibres, worms, or weather. It is necessary for a man to follow immediately after the one that places the roots in the bottom of the trench, who has some skill in the use of the hoe; moving backwards, taking care to step each side of the roots in the trench, so as not to disturb them, and with his hoe scraping from each side of the trench regularly, so as to cover the crown of the roots about three inches; and the planting is completed. A field or bed managed in this way has a handsome appearance the first season, if the ridges are kept neat and in a workmanlike manner. Between the rows of asparagus on the top of the ridges, I usually grow a very fine crop of tap rooted plants, which does not in the least injure it the first summer.

After the asparagus shoots have made their appearance about six inches above ground it is a good plan to draw a little earth around the

stalks about an inch deep, so as to kill the weeds, which may be repeated in the course of the season without injuring the row of roots on the ridge. The second year after planting, as soon as the frost is out of the ground, spread along in the trenches, which will then be three or four inches deep, about one inch of light compost manure; then with a plough back furrow every row separately, turning the furrows directly over the asparagus, making two bouts to a row, rake or cross harrow, and the bed will be level, requiring no more care that season except keeping down the weeds. The third spring, as soon as the weather permits, burn the old stalks on the ground, spread at the rate of twenty cart loads per acre, of good compost or horse manure, and plough it in, taking care to turn narrow furrows and not so deep as to injure the crown of the root; then rake or harrow, and the bed will be in readiness for gathering, or cutting, which should be done in the following manner: As soon as the shoots project five or six inches above the ground, and before the buds begin to open, cut them off with a knife about one inch or less below the surface of the ground; (not three or four as is recommended by some theorists,) as all that grows below the surface is stringy and tough and not fit to eat. The old stump immediately decays, and makes the best of food for the plants. I continue cutting, about two months from the time I begin in the spring, having no regard to the twentyfirst day of June, or any other particular day, as the plant naturally produces a given quantity of shoots every season, without injury to the root.

The above method should be pursued yearly, as long as the bed lasts, which in this climate, I presume will continue to produce well from thirty to forty years, under the above treatment. The bed that produced the large shoots I spoke of, was put down in 1819; in 1833, the season I sold my farm, the produce was equal, if not superior, to any former year. Yours, &c.

D. CHANDLER.

Thompson Island, Feb. 9, 1835.

ON ACCELERATING AND RETARDING THE MATURITY OF FRUITS AND VEGETABLES IN THE OPEN AIR.

EVERY gardener who supplies markets is aware that fruit and vegetables exposed for sale early in the season generally obtain higher prices than those brought when the bulk of the crop comes forward.

Private gentlemen keeping gardeners are also equally alive to the luxury of having their tables spread with fruit and vegetables at least as early as they appear at market. It seems therefore a point of some importance to gardeners to seize every advantage which situation, the nature of the soil, or the experience of others offers to effect this purpose; and while I lay before the readers of the Register the result of my own experiments and observations, I earnestly solicit from others, communications on a subject which opens a field of so much interest both to the intelligent observer of the laws of vegetable life, and to the practical Horticulturist.

In one of the numbers of Loudon's Gardener's Magazine, I observed a method of obtaining early strawberries by planting them in intervals between bricks laid like a bank slanting towards the south;—pursuing this idea I raised a bank of rich earth about three feet high, running east and west, that is, one side south, the other north; this I faced with the irregular masses of pudding stone which abound in this vicinity, leaving spaces in which I planted strawberries. My reasoning was, that the stones, by preventing evaporation, would keep the soil moist in which the roots grew, a state very favorable to the swelling and size of the fruit; that the heat of the sun imbibed by the masses of stone on the south side where the fruit lay, would ripen it earlier; particularly, being dry, they would not so soon cool as the earth, the evaporation from which produces considerable cold on the surface; that the berries reposing on the stone would be kept free from dirt during heavy showers; and lastly, that while the south side was earlier, the north would be somewhat retarded; and thus prolong the period of enjoying this wholesome fruit.

My expectations were, however, only partly fulfilled. I had a good crop, very clean, some late, but not more than a dozen or two were in advance of my neighbors. On these results, I observe, that my bank although three feet high had no additional shelter by palings or fence behind it, against the cold north winds, which prevailed far in the summer of 1834, and which certainly penetrated the north side, keeping the temperature of the earth round the roots of the south plants so low as to check advanced vegetation. Again, gardeners employed in forcing are aware that those plants alone are fit for their purpose which have gone earlier the preceding autumn into a state of rest; consequently, it is probable that with proper shelter, such a plantation would be some days earlier the second year than the first, the plants having gone sooner into the above state. I

will mention that by the assistance of a few hand glasses and Russia mats, I have seen a south bank of strawberries, well protected by a wall, in fruit eight days earlier than the common crops.

The fruit of the strawberry plant may also be postponed by pinching off the flower buds, as soon as they can be discovered, but carefully, so as not to injure the leaves or the heart of the plant, until the second or third week in June, when they must be left to fruit, always destroying the shooting runners, and observing that in hot weather they must be plentifully supplied with water or the blossoms will shrivel and be sterile; this is an easy task if the plan of a bank such as I have described is put in practice, because the ridge at the top can be made with a channel capable of being quickly filled with water, which will then gradually soak through the whole, without being rapidly evaporated at the surface.

With the deepest respect for Mr Knight and other writers on the subject, for well their labors entitle them to this feeling from every cultivator—I am yet inclined to think that their expression of a state of rest for nature will prove something like that of the chemists of old, that "nature abhors a vacuum," and the industrious researches now in progress respecting the structure and uses of the various parts of plants will probably prove that nature does not require rest, but is, during this state of *hybernation* or wintering, in silent and invisible, but active preparation for the spring and summer campaign, when she will inundate the earth with her innumerable hosts of delicious fruits and flowers, captivating and leading into sweet bondage all the dwellers thereon who come within reach of the beauty or incense of the latter, or the cool refreshing juices of the former. Similes are, however, little suitable to the tiller of the soil; he will find enough to puzzle him in the general classes of Botany without meddling with the metaphoric class of flowers of composition.

The growers of seeds of culinary vegetables, might easily experiment on a small scale whether the seeds of plants forced one year would naturally vegetate earlier than those not forced, both being afterwards sown under exactly similar circumstances, observing that if it only made a difference of three or four days the first year, it might by forcing and management increase progressively the second year, and so on until by degrees this difference would at last become sensible. The same may be done with potato sets and many other plants.

If the first crop of peas were sown at the foot of a deep ridge

formed by the plough facing the south, it appears to me that the young and tender shoots just rising from the earth, would receive considerable protection against the early north winds, as I have often found plants growing on the south side of a stone shoot and blossom earlier than the same plant on the other side; any one may observe in a piece of ground ridged by the plough or otherwise that the white frost appears on the upper edge and perhaps half way down, while the bottom of the trench has not been touched. This is perfectly in accordance with known principles in meteorology. I have tried the above method with complete success, but not in this vicinity. Every person conversant with peach trees, must know that there is a difference of a full fortnight in ripening fruit on the same tree, owing no doubt to aspect, original earlier vegetation of some blooms, shelter from or exposure to the sun; all these and many other circumstances may furnish ideas for experiment to the acute observer, and intelligent cultivator. It is not improbable that if the bloom buds, which are late, were rubbed off, previous to opening, those in a more advanced state, might be strengthened and forwarded; there remains indeed on this subject much scope for the application of ingenuity and industry, which I should be extremely glad to see in active operation. To delay the maturing of gooseberries and currants and to preserve the fruit in its natural state until September or October, I should recommend the selection of those trees most abundantly provided with berries; as soon as these have attained their full size and are just beginning to ripen, lay a clean Russia mat over the tree, gather it together round the stem about an inch from the ground and tie it firmly up with a string; the object being to shade it almost entirely from the rays of the sun, it would perhaps be as well for the first month or six weeks to put on a double mat, removing the upper one time enough for the autumnal sun to penetrate that underneath. I have eaten fine gooseberries preserved in this way only with a single mat as late as December in England, but that year no frost of consequence had then taken place; here I fear we cannot promise ourselves exemption so late, and frost would infallibly injure the flavor.

I have said little in this communication respecting hand glasses, or what are cheaper and nearly as good for mere protection during cold nights, frames covered with oiled white paper; these are easily made by sawing sugar boxes in halves horizontally and fastening the paper in place of the top or bottom; they should be sunk an inch deep in the surface of the earth, and the crevices well stopped with putty. I

trust that future communications will enable me to add information of a much more valuable nature on this interesting subject, than is offered to the public in the present paper, my principal object being to give an impulse to inquiries and experiment. J. E. T.

HORTICULTURE, &c.

To the Editor of the Horticultural Register.

Sir — When any new work, calculated to benefit a particular class of persons, and through them the public, claims notice and patronage, it is the duty of every one who approves its objects to promote its success by contributing such observations and information as reflection or experience may enable him to afford; this consideration induces me to trouble you with this multifarious, though brief communication.

I am pleased to perceive that you have adopted the plan of giving the common, as well as the classical, nomenclature of the subjects to which you refer, and of translating the scientific language which it is often necessary to employ. Not one in a thousand of those interested in horticultural pursuits is acquainted with, or capable of comprehending, either the Linnæan or Jussieuan generic and specific terms, or to recognise in them, plants with which they are intimately acquainted; this observation is not only applicable to those entirely deficient in classical attainments, but to many who are well acquainted with Greek and Roman literature; without professing to belong to this latter class, I may truly state that I am tolerably well versed in both these languages, but, had I no other guide than Loudon's list in the formation of a flower border or a shrubbery, I should be totally unable to make the necessary selection of seeds and plants. Scientific catalogues are only to be understood by the professed botanist, who, by the by, will obtain but little instruction from Mr Loudon's, in many respects, very useful *Encyclopædia of Gardening*. All scientific works to be *extensively beneficial must be universally intelligible*. Having referred to Mr Loudon, I beg to point out a fault of which he and many other authors are too often guilty, and which, I hope, will be avoided by the conductors of the *Horticultural Register*. In the Index to the Encyclopædia, when we have found the word for which we sought, we are frequently referred to some antecedent or subsequent synonyme; thus, if we wish to know the place

where the culture of the Carnation is described, on referring to the Index we shall find "*Carnation*, see *Dianthus*;" how much of our time and some type would have been saved if the *page* had been given instead of the *synonyme*; which may however be very properly *added* in cases where, under the title of the latter, is to be found a more copious description, which it is deemed unnecessary to repeat. I have great pleasure in being able to confirm the facts communicated in your extracts from *Loudon's Magazine* with respect to *Mearns's coiling system of cultivating the grape, the culture of onions* and *the earthing of potatoes.*

Some years ago I succeeded in producing fruit at least a year earlier than I could have done by the common methods, by planting a Sweet-water grape in a way which, though not exactly corresponding with that described by Mr Mearns, I consider to have proved successful on the same principle as his, viz., by obtaining a superabundant supply of roots. I selected a shoot more than sixteen feet long, on which I left about three inches on each side of older wood; this I placed in a trench well manured, about twelve feet in length and six inches deep, and then bent the extremity upwards, taking off about a foot from the top and all the buds except two at the upper end; these eyes produced shoots nearly twenty feet long, and, being shortened at the commencement of the winter, to about half that length, yielded in the following season a good crop of excellent fruit. I should observe that the vine was trained on a gable wall, fronting the south, which it very soon entirely covered. I have no doubt that planting a coiled long shoot in a hole dug in a proper soil would succeed admirably; if the mould should be so light as to render the coiling difficult, three or more thin stakes of perishable dry wood may be inserted in the hole close to its sides, to which the buried coils may be attached by loose bass or other ligatures.

I am convinced by the following occurrence that Mr William Whiddon's opinion, relative to the *culture of onions*, (Hort. Reg. No. I. page 26,) is correct. In the beginning of last June, I called upon a friend, since dead, who, though more than eighty years of age, delighted in horticultural pursuits; knowing that I had a similar taste, he led me to his garden, which was well cultivated, and, in general, abundantly stocked; I however, remarked an almost total failure in his onion beds, which contained only a few, and these very weak, while all the alleys showed an abundance of vigorous plants. My friend told me that he believed the cause of this was that his

gardener, in covering the seed, had raked nearly the whole into the alleys; but I was of a different opinion. The soil was a rich light loam, highly manured, and as the early part of the season was remarkably dry, I was convinced that its want of compactness to retain moisture had prevented the seed in the beds from vegetating, while the treading of the alleys effected all that was required. The best crop of onions I ever saw was on a stiff clay, which was simply prepared by hoeing and raking off the weeds and spreading some well rotted manure about three inches thick, on which the seed was sown and covered lightly with good earth, provided for the occasion, which was flattened by the spade; the roots not being able to strike downwards spread near the surface and formed an abundance of large, healthy bulbs. I must not omit to state that when the plants were about the thickness of small crow quills, a liberal supply of wood ashes was sifted over them.

The remarks relative to *the worse than useless practice of earthing up potatoes*, I know from experience to be well founded, and the same may be made with respect to Indian corn. In the Western States, where the largest crops are produced, earthing is never practised; it is only necessary to destroy weeds by the horse or hand hoe.

I last year sowed two rows, each twentyfive yards long, of Knight's dwarf Marrowfat peas; one half of each row I planted in the usual way, earthing up the plants as they advanced in growth, the other halves I sowed at the bottom of trenches about four inches deep; those were left *concave* during the whole time of their growth which was evidently more luxuriant than that of the other portion; but a long and rapid succession of alternate cold rains and intense suns occasioned these and all the other peas in my garden, though sown at various periods and in different soils, to be so infected with mildew that nearly the whole produce was destroyed, and I had no opportunity of ascertaining the result of my experiment; those in the concave rows, however, certainly suffered least.

I shall repeat the experiments this year, and will, if you wish it, apprise you of the result thereof, and, also, of some trials which I intend to make in the culture of onions and other vegetables.

I am yours, with much respect,

February 17, 1835. QUIVIS.

[For the Horticultural Register.]

AZALEA, RHODODENDRON, AND EPIGÆA.

Having in former communications, imperfectly noticed the Kalmias, I now proceed with other individuals and species of the beautiful natural order Rhododendreæ. The genus Azalea derives its name from the Greek Azaleos, dry, arid, either in allusion to the places where the plant grows, or to the dry and brittle nature of its wood. Most of the American species, however, are found in wet or moist situations. A. nudiflora is sometimes to be met with in an arid soil, in which case the flowers are of a more brilliant color. This genus belongs to the artificial class Pentandria, (five stamens,) order Monogynia, (one style) and consists of shrubs highly ornamental, and much prized for the abundance, beauty, and fragrance of their flowers.

The only species common in the vicinity of Boston is A. viscosa, which may be found in abundance among the brush-wood in low grounds, and is much admired for the fragrance of its flowers, which are produced in terminal umbel-like corymbs; mostly pure white, but sometimes varying to blush or variegated; hairy and glutinous (viscosa) on the outside; stamens longer than the corolla (flower), which in all the species is bell or funnel form, terminating in five unequal segments.

As we advance farther into the interior, thirty or forty miles, the beautiful A. nudiflora occasionally presents itself to the enraptured traveller, tempting him for awhile to forget the objects of his journey and admire the elegance and fragrance of its flowers. This as well as A. viscosa, is called by the country people, swamp pink, probably on account of the odor of the flowers, which has some resemblance to the garden pink; by them they are eagerly sought after, and form a conspicuous part of the decoration of the mantel piece in its season, the month of June. The color is commonly a fine pink, varying to a deep red, which is rare. Their beauty is much increased by the length of the thread-like stamens, being much longer than the corolla, which is naked or destitute of a calyx, from which its specific name is given — nudiflora or naked flowered.

There are as many as a dozen indigenous *species*, besides many varieties, to be found in different parts of our country, all handsome, and worthy the attention of the florist. According to Eaton, A. nud-

iflora alone has seven distinct varieties, all naturally produced, viz: A. coccinnea, with scarlet flowers; A. rutilans, with deep red flowers, A. carnea, with pale red flowers; A. alba, with white flowers; A. partita, with flesh colored flowers parted to the base; A. papilionacea, with red flowers, the lower divisions white; and A. polyandria, with rose colored flowers, with from ten to twenty stamens.

To the Chinese we are indebted for some fine species which have been introduced here from England; some of these with slight protection it is said will endure our severe winters, while others can be preserved only in the green-house.

A. pontica is a beautiful species with yellow flowers, emitting the most exquisite odor, from Pontus. The juice in the bottom of the flower is said to be poisonous, and communicates its bad properties to the unwholesome honey of that country. The famous honey of Trebizond is spoken of by Xenophon, in his history of the retreat of the ten thousand Greeks, as having produced the effect of temporary madness, or rather drunkenness on all who eat of it, without, however, causing any serious consequences. Mr K. E. Abbott, in a letter read before the Zoological Society in London, describes the effect it has on those who eat it, having witnessed precisely that which Xenophon describes; when taken in small quantities it causes violent headache and vomiting, and the unhappy individual who has swallowed it, resembles as much as possible a tipsy man; a large dose will completely deprive him of all sense and power of moving for some hours afterwards.

It is said by Loudon, that some new and curious varieties or hybrid species have been produced by intercrossing with the Azalea and Rhododendron. Why may not then the Kalmia and Azalea, the Azalea and Rhodora, or the Rhodora and Kalmia be crossed in like manner? What freaks might not nature exhibit when assisted by the art of man. What endless varieties might be obtained by thus mixing this interesting natural family together.

Here is a wide field, for the amusement of the man of leisure and horticultural taste. Azaleas require a moist peaty soil, or black sandy loam, and rather shady situation. Plants may be freely raised from seed, or from cuttings, layers and suckers.

If taken from the woods, the best way is to cut them off close to the ground; they will throw up numerous shoots and form fine healthy plants.

Rhododendron maximum, or American Rose Bay, belongs to the

class Decandria, ten stamens; order, Monogynia, one style. The general term is derived from the Greek Rhodon, a rose, and Dendron a tree, because the flowers resemble in color bunches of roses. In the Northern States, it is a straggling shrub of very irregular growth, but one of the most magnificent in foliage and flower the country can boast of. It is abundant in the Middle States and in the mountainous tracts of the Southern, but in New England rare. It is found near Portland, Leicester and in a swamp in Medfield. At the last place the writer has been acquainted with it from a child; nearly a hundred acres or more are covered with it, and it forms an impenetrable undergrowth except when cleared away by the axe for the passage of teams. When the leaves are thrown into a brisk fire, they produce a violent snapping like the continued discharge of India crackers; for the want of a better name the plant was called by the few who were acquainted with it "snapping leaves."

The swamp being in a place of difficult access, and only frequented by a few in the winter, the magnificence of the flower was not known for many years, until at length it was discovered one season when in full bloom. Twentyfive years have passed, yet the sensation produced by the first sight of this splendid show is still in remembrance. Crowds of people flocked to the place and soon these superb flowers found a place in every house. The Rhododendron is generally under ten feet in height in this part of the country; but sometimes attains the height of twenty or twentyfive feet in a less rigorous climate. The places where it is found in New England, may be considered as far beyond its proper natural limits, and it will be met with only in warm swamps, under the shelter of evergreens and where the roots are protected by water which usually overflows these places.

The flower buds are often destroyed, even thus situated, in very severe seasons. When the leaves are beginning to unfold themselves, they are rose colored, and covered with red down; when fully expanded they are smooth, five or six inches long, of an elongated oval form, and of a thick coriaceous texture. They are evergreen and partially renewed once in three or four years. It puts forth flowers in June and July, which are commonly rose colored, with yellow or orange dots on the inside, and sometimes pure white, or shaded with lake. They are always collected at the extremity of the branches in beautiful groups, which derive additional lustre from the foliage that surrounds them. Previous to its expansion, the whole bud forms one large compound bud, resembling a strobilus or cone, each indi-

vidual one being covered by a rhomboidal bracte, which falls off when the flower expands. The corolla is monopetalous (one piece or petal,) funnel shaped, with a short tube, the border divided into five large unequal segments. There is but a small chance of plants succeeding which have been taken from swamps. The surest way to propagate it is by seed, from which it readily grows; but requires time and patience to bring it into a flowering state.

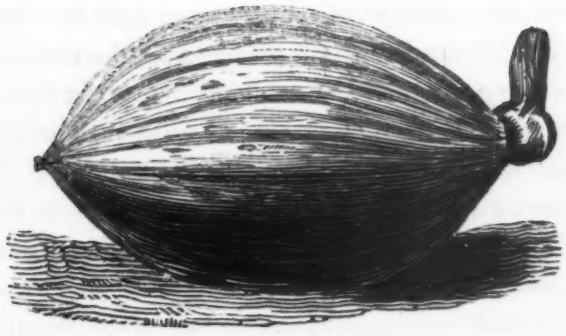
Many young plants are annually imported, which may be obtained in good order at the principal nurseries at a moderate price, and will soon come into flower. Shade and humidity seem almost indispensable to the growth of this shrub. Deeply shaded situations, where the atmosphere is laden with vapors, are most congenial to its growth. It is therefore well calculated for the shrubbery. With a little attention, it may be inured to stand the sun, and then forms a stately ornament for the lawn or grass plot. The proper soil is a light rich loam with moisture; it will grow, however, in almost any, and flourish on a strong heavy loam. It may be propagated from cuttings and layings from young healthy branches of ripened wood, and managed as ordinary plants, thus increased. There are many exotic species, which are beautiful and highly ornamental to the green-house. R. ponticum withstands the winter in the open ground if well protected, and possibly many others will, as most of them are natives of cold mountainous regions, and covered in the winter by alpine snows.

Epigæa repens is included in the same natural family as the preceding. The generic name is from Greek words, signifying upon the earth. The woody, hairy stem grows flat upon the ground, and throws out roots all the length of its branches. It produces delicate purple, flesh colored or white flowers, not so much distinguished for show as for fragrance, and very acceptable, on account of their early appearance about the last of April. The flowers are from two to six, in terminal or axillary bunches, on short hairy petioles.

Corolla salver form, longer than its double calyx. Leaves evergreen, alternate, oblong, heart shaped at base, hairy and rough, with hairy petioles. Class, Decandria. Order, Monogynia. This pretty, humble plant is found in abundance in this town, in the dry open pine woods, and often in the pastures. The common name is Ground Laurel. It will succeed in the garden if placed in the shade, and covered with leaves in the winter.

Yours, &c. X.

Lancaster Garden, Feb. 6, 1835.



AUTUMNAL MARROW SQUASH.

Mr John M. Ives, of Salem, Mass. has furnished us with the above cut and the following description of a very useful vegetable.

Fruit obovate, depressed on one side; stem very large, and inclined upwards, almost at right angles with the fruit; a small truncate callosity at the other extremity. Color reddish cream, with spots or dashes of bright ochre when in maturity. Flesh orange, seeds large, pure white, with an elevated margin; average weight, eight pounds.

The above new variety of Squash, Cucurbita melopepo var. has been lately brought into notice in this vicinity, on account of the delicacy of its grain, and excellence of flavor. We have called it "Autumnal Marrow" as it comes in succession to the summer varieties, but may be kept throughout the winter.

A peculiarity in this variety is the extreme thinness of its skin, being of the consistency of the inner envelope of an egg.

We recommend it to all lovers of this vegetable for its many excellent qualities: we speak thus confidently from the testimony in its favor of those who have used it at their tables.

We find there is nothing gained by forcing the plants in a hot bed, as there is no difficulty in ripening the fruit in almost any season, provided the seed is sown as early as the first of June, or at the time of sowing the Canada Crook-neck, as it ripens much earlier than that variety. We think the plants are stronger and healthier raised in the open air than under glass. The greatest difficulty in the cultivation of the Autumnal Marrow is to keep it from the large squash bug (*Egeria cucurbitaceæ.*) If care is taken to destroy them previous to the depositing of the eggs there is but little trouble in checking them. With regard to the proper soil for their culture, we find that newly

broken up grass land is better than highly manured soil, as in the latter they run and grow so vigorously as to form the fruit too late in the season. In a quantity which we had raised on a highly manured spot, their average weight was but about five or six pounds; whereas others grown upon old grass land turned up in the spring of the same year, averaged from nine to twelve, and some larger. They should be thinned out on the appearance of the third leaf, to three plants in a hill. This vegetable is well worthy of cultivation not only for its fine quality, but for keeping well in winter. I have a number perfectly sound, which have been kept in the same situation with the Crook-neck since they were housed in October last.

ON THE CULTIVATION OF FLORISTS' FLOWERS.

[Continued from page 52.]

I MUST first acknowledge my obligations to the Editor for correcting the mistake in my last communication, Dianthus caryophyllus, belonging as he justly observes to Decandria digynia of Linnæus; his supposition that I copied it from Curtis's Botanic Magazine, is also right, except that he should have said "thoughtlessly copied." — This is one amongst many proofs that zealous florists are not always good botanists; but I am pleased to think that the reverse case is also frequently true, remembering that the celebrated English botanist, Sir J. E. Smith told a friend of mine that he had never cultivated a flower in his life—was he to be pitied? probably not, as there are many who would perish ere they would thrust forth their hand to mix the "villanous" manure which transforms and disfigures their plants so that they cannot recognise them as friends, which obliterates the beautiful stamens, and anthers with their delicate and curious mechanism for containing, maturing and ejecting the pollen, for fertilizing the ovaria, and producing seeds; finally, which replaces this exquisite organization with what? a parcel of *things* like bits of colored paper, UN-dignified by the florist's appellation of *leaves* instead of *petals*, almost without functions, certainly without parental cares,* the true painted Jezebels of the day, courting universal admiration, and removed forever from their own unobstrusive verdant banks, or the modest

* Double flowers scarcely ever produce seed.

retirement of their native woody shade, *sed de gustibus non est . . .* * *Exit* botanist in a Latin passion, which chokes the utterance of the remainder of his quotation, leaving me quietly to resume my humble task on florists' flowers.

The Pink Dianthus—the specific name is lost in clouds of antiquity, some think it originated with the Carnation from D. caryophyllus, others from D. deltoides, others call it D. hortensis; it appears to me from the growth, more like the progeny of D. deltoides; the botanic character is the same as the Carnation, as is also the process of raising from seed by which all the fine florists' varieties have been produced. I have written to London for several pairs of those, I know from experience to be most celebrated for affording fine seed, and I shall be very happy to see my old favorites arrive in health; if they prosper it will be a pleasure to me to distribute seeds to all who are inclined to make a trial of the cultivation of this fragrant ornament of the flower garden. Sometimes a cultivator is fortunate enough to raise one with rose leaved edges; but it is rare and thought much of; the fringed petals are not considered detrimental to the Pink, provided the indentations are small and regular, not jagged; but the great beauty of this flower depends on the distinctness and brilliancy of the color round the edge of the petals called the lacing, and that of the eye or centre; in some it is a dark black purple, in others a rich crimson, and the colored border must not be so deep as to cover too much of the white ground and destroy the contrast.

These flowers are also to be dressed; but as they are generally cut from the plant when exhibited, there is no necessity to make the slit in the circular card to admit the stem. Many who shew for prizes cut their flowers the evening before the day fixed, dress and place them in a small phial of water with a lump of saltpetre in it, keeping them altogether in the dark until the moment they are required for the exhibition. I own it has always appeared to me to increase the brilliancy of the colors, although a different result might have been expected from depriving them of light; but the effect of the saltpetre may be more easily accounted for. I ought to add that when I mention saltpetre, the refined is always understood, as that imported from the East Indies in its crude state, generally contains a variable proportion of salt and other matters say from five to twentyfive per cent, which might be very injurious to the vegetation of many flowers.

* De gustibus non est disputandum; free translation, there is no accounting for taste.

The Carnation is generally propagated by layers, a very simple operation. When the plant is about in the perfection of bloom lay around it one and a half or two inches of compost, first gently stirring the surface so that it may combine ; remove the lower leaves of the shoots selected ; pass the penknife slanting upwards, half through a joint ; fasten the shoot where so cut, about two inches under the surface with a small hooked peg, bending it up carefully so as not to break at the incision, then fix it very firmly by gently pressing the earth around with the fingers, and finish by cutting off about half an inch of the upper extremities of the leaves with scissors. The sap soon begins to granulate at the wound and throw out roots ; in about a month or five weeks, if kept tolerably moist they may be severed from the parent plant and established for themselves. It is better always to leave two or three shoots on the old plant to attract the juices of the earth, otherwise it is liable to die. This is the surest method of propagation, but is seldom resorted to for pinks, which are generally increased by pipings. These are the shoots cut from the plant at the second or third joint, according as they are more or less woody or juicy, and inserted pretty close to each other in a bed of proper compost well pulverized ; water moderately, so that the earth may adhere closely round the shoots; when the moisture has somewhat evaporated from the leaves, cover them up with a hand glass, which must be forced a little depth into the ground so as to keep out the air : this need hardly to be removed until the plants have struck root ; they must be shaded, however, for the first fourteen days, with mats over the glasses when the sun is very hot. If properly managed, not one in twenty will miss, and between one and two hundred may be planted under one glass ; in a month or six weeks they will have shot up and be sufficiently rooted to move.

This country is happily exempt from one scourge of this tribe, an insect called the Earwig, whose beautifully folded gauze wings are the admiration of the Entomologist ; but I warn him as he would avoid the imprecations of the Carnation grower not to satisfy his curiosity by introducing them here alive. It is singular to see each of the sticks which support these plants decorated on the tops by the claw of the lobster, set as traps for this insect ; they creep up the stick into it at night or upon the approach of rain, and are there caught and instantly sacrificed to the goddess Flora, without remorse or attention to the beauty of their wings. Would I could record the same exemption from a more insidious, and less elegant foe, the wire worm, a little deep yellow creature in a tough skin, about half to three quarters of

an inch long, which dwells below the surface of the earth. You see your favorite plant droop, and on pulling gently find it to offer no resistance, having been nibbled away just above the root, by this voracious enemy, who is travelling fast away to banquet on another; they are generally found in the loam. I was horror-struck at seeing one of them in the first spadeful I turned up, and on trying to kill it, was assured of its being a real true tough wire worm. No artificial means of getting rid of this insect have as yet succeeded; when operating in the open ground the loam must be well examined and all found destroyed—when your plants are in pots the compost must be searched and your pots well insulated, by placing each pot on a small stand inverted in a larger stand, which then is filled with water. The aphis or green fly is easily managed by brushing off with a camel's hair pencil.

There appears in all this detail much trouble. I can assure those however, who undertake to cultivate these plants that they are anything but troublesome cares, while the reward is ample, and the sight of a beautiful bed of pinks, decorating the garden and exhaling its fragrance for a month or six weeks, is a sufficient remuneration for all the pains taken. J. E. T.

[For the Horticultural Register.]

ON FORCING THE CHERRY.

BY EDWARD SAYERS.

The cherry, although one of the best table fruits of its season, and perhaps requiring the most simple method in the act of forcing, has rarely been attended to according to its merits in the hot-house department in extensive establishments, where every other branch connected with horticulture has been duly attended to and cherished as a useful art. This inattention has probably been owing to the many failures that have been witnessed in forcing this fruit; which by some of the best practical forcers, has been considered extremely difficult and almost impossible to bring to perfection without extraordinary care and attention. This supposition has been grounded on the well known fact that the cherry will not thrive and perfect its fruit in a stagnant heated *air*, proceeding from *fire* or other *artificial* means, without the presence of atmospheric or external air, being freely admitted into the house to rectify the impure internal air. And

hence a very moderate temperature is recommended by writers on the subject, to be kept by the means of admitting plenty of *air* into the house and applying the least possible quantity of *fire* heat for the intended purpose. That many houses of cherries are entirely lost in the act of setting the fruit and the like, I have been well convinced at different times by too much confined fire heat; and I have also been fully satisfied of the success with which the cherry may be forced, if a proper method is adopted and pursued to counteract such pending injuries.

The cherry may be forced in pots; or the trees may be planted in the ground purposely prepared, and allowed to fill the house without the aid of training. In either of those methods a front stage in the house may be applied for the forcing of the strawberry, which always thrives well with the cherry, and many other vegetables may be forwarded on the shelves and other vacancies in the different parts of the house. Large stools of pie-rhubarb and sea-kale may be planted in boxes or tubs and forced from their crowns, which may be covered with old tan or light earth, so that the young shoots may push through without being crippled, and they will also bleach by this process; other varieties of vegetables may be accommodated in a small portion, as herbs, small salads and the like. If two small houses are to be employed for the purpose of supplying a family, which I would recommend, one for pots, and one for planting in the ground, the first house may be forced early with pots, which can be taken out of the house, when the fruit is picked, and a crop of grapes may be afterwards grown, by bringing in the vines in the front of the house about the middle of March, when its temperature will be suitable to the breaking of the grape.

PLAN AND POSITION OF THE CHERRY HOUSE.

The position of the cherry house should be to face a plain south aspect. The location on a dry, well protected spot, and if a little elevated the better.

The plan of the house I would recommend is simply to build a brick wall for the back of the house about 12 or 14 feet high; and a front wall, two feet above the level surface of the ground, the end the same; on the front wall upright sashes of two and a half or three feet in height may be placed, in such a manner as to admit air either by sliding down or being hung by hinges; or perhaps a better method than either, by running the whole number in a chase or groove, in such a manner that air can be admitted in any part or

place in the front, by taking out one, two, or any number of sashes from the end of the house, and drawing the remainder at an equal, or any distance required from one another. The ends of the house will of course be of glass; and the inside of the house of such a width as to give a span of the roof an inclination of about 40°. The top sash, which will of course slide, to be half the length of the roof, in order to give plenty of top air. The flues to run round the ends and front of the house to be 12 inches deep, and 12 inches wide in the clear, laid on a plank or with brick abutments nine inches above the level of the surface of the house. On the front and end of the flues may be placed a flat staging of three feet wide, for the reception of strawberries and the like.

MANAGEMENT OF THE CHERRY HOUSE.

Compost for the border or pots. The soil best adapted for the cherry, is a light, sandy loam, with about one fourth of well rotted manure from the stable incorporated therewith. A sufficient quantity of this compost may be thrown into a heap and well mixed together by turning and incorporating it together some months previous to its being used. It may here be observed that a greater portion of manure is always requisite for pots than for a border.

Making the border for the cherry house. The cherry like the peach is generally planted in the soil in the interior of the house, and requires the whole surface of the inside to be covered or filled with compost a proper depth, for the roots of the trees to travel into and obtain their requisite nourishment.

The earth may be taken out of the house two and half feet deep if a *dry* bottom; and if *wet*, three feet, in order to put six or eight inches of drainage of old mortar rubbish or the like; as it will be recollected that the cherry delights in a dry bottom, and seldom thrives on low wet lands. When the earth is taken out, the pit may be filled with compost, preparatory to planting the house.

Planting the house. The best time for planting the cherry house is in the fall of the leaf; great care should be taken in the selection of the trees; and every precaution be taken that they are well rooted, and that the fibrous roots are not cut off, in the act of taking them from the ground or nursery.

The planting the border may be performed by digging holes in the usual manner of planting of trees, at the distance of three or four feet apart, which will depend on the size of the trees to be planted.

The house should always be tolerably well filled at the first planting and the trees may be thinned according to their growth yearly in such a manner that they are not too much crowded. The position of the trees should be such, as to range under the glass in a sloping manner two or three feet below it. The back of the house should be planted first with the tall trees, and others of a lower growth brought to the front of the house. A distance of five feet should be left unplanted in front from the wall — two feet for a walk or alley and three feet for the front stage. If the soil is very dry when the trees are planted they may be moderately watered when they are to remain until the time of forcing.

CHOICE OF TREES.

Much depends on the choice or selection of trees for the house, especially if intended for pots; trees in such case, should have a well furnished top, the roots numerous and fibrous and of a regular ramification from the stem or centre of the butts. Care must also be taken that the tops of the trees have plenty of blossom buds, or no fruit can be expected; and the tree in every respect should assume a healthy vigorous appearance.

Potting the cherry trees. The cherry when intended to be potted, should be done in the fall of the leaf. Pots of the largest size used for green-house plants may be procured, into which some broken pots or other drainage may be put, when some fine earth may be put thereon; the roots of the tree are then to be plunged into the pot, and some fine earth well worked close to the roots, by shaking the pot and pressing the earth close with a stick and the hand. This done, the pots will require to be watered and placed in a sheltered situation previous to being put in the house for forcing. In the month of December the trees will require to be slightly protected from the severe frost by placing them in a southern aspect, and covering the pots with tanners' bark, horse manure, or the like, in such a manner as to keep out the frost, or at least partially, and that the pots may not be broken by it.

(To be continued.)

LEUCOPOGON RICHEI.

A great part of this article is taken from a number, not very recent, of the Botanical Magazine, part is taken from the report made to Admiral D'Entrecasteaux by M. Riche himself, and part from late communications.

The Leucopogon Richei is a plant with a small flower of the Epacris tribe, and bears a berry somewhat resembling the huckleberry (*Vaccinium resinosum*). It is introduced into this publication with a view of giving an account of its discovery, and the hardships endured in the cause of science by M. Riche, whose name it bears.

Near the close of the last century, the French government sent out an expedition of two ships commanded by Admiral D'Entrecasteaux, in search of the unfortunate La Peyrouse, whose name must be familiar to many of our readers.

M. Labillardière, botanist of the expedition, to which M. Riche was attached as naturalist, relates, that the scientific gentlemen landed on the desert coast of Southern Australia, for the purpose of astronomical observations. M. Riche, leaving them to set up and fix their instruments, proceeded alone into the interior; quitting the beach some miles westward of Cape Le Grand, longitude 121¼ East, with an intention of returning early in the evening, to the boat. He was so enraptured with the riches and novelty of all the productions of that region which no other observer had hitherto been known to visit, that quickly losing his way, he wandered to some distance inland over a country, occasionally presenting desert plains of calcareous sand — nor was he able to his find way back to the landing place until the third day, so that the distress which his absence had occasioned on board the ships was extreme. A boat was despatched on the second day from each ship, in quest of the lost naturalist; and the Admiral ordered guns to be fired every half hour to enable M. Riche, if still alive, to direct his steps with the greater certainty towards the anchoring place. M. Labillardière, who died at Paris, so recently as last January, at the age of seventyeight, was himself one of the party in quest. They traced his steps on the sterile wastes he had traversed to the edge of a large lake, which they concluded had a communication with the sea, as its water was salt. The print of his shoes observed on the margin of this considerable water furnished encouragement to proceed in their search; but the marks of naked feet which appeared near his, gave grounds for apprehending that he had

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been dragged by savages into the interior country. Moreover, one of his pistols and his handkerchief were found on the sands, and these strengthened in their minds the sad apprehension of a dreadful fate. Further on, a little smoke that arose from a deserted fire, directed their steps to the spot, and near it they found pieces of paper on which they recognised the hand writing of the unfortunate man. Around them a dismal waste extended far and wide, but no farther trace of Mr Riche could be found, when as they were returning towards the landing place deeply lamenting the fate of their unfortunate companion, and had nearly reached the shore in a hopeless state of mind, they beheld one of the boatmen running to meet them with the pleasing intelligence, that M. Riche was still alive, and that he had just reached the landing place, extenuated with hunger and fatigue, having been upwards of fiftyfour hours on shore with no other provision than some small pieces of biscuit.

When recovered from the state of stupor, into which he had been thrown, by so long a privation of nourishment, he related to his companions, that he had lost himself on the first day, but that near the fire which he had found burning, there was a little rill of fresh-water, at which he quenched his thirst, and urged by hunger he had ranged about in the neighborhood and in the thickets, and discovered a shrub which furnished him with some small fruit, in a quantity insufficient, however, for the supply of his necessities, yet without which it is probable he would have been unable to have returned alive.

To this plant of a species already known as Leucopogon, but a distinct variety, M. Labillardière attached the specific name of the recovered naturalist, as much out of compliment to him as to perpetuate the remembrance of the circumstances under which it had been discovered. At the little spring of water, a perfect oasis in this arid waste, he passed the first night, the next day was spent in a fruitless attempt to reach the landing place. In this painful peregrination, M. Riche saw in these wilds, at a distance, Emus, Kangaroos, and even some of the natives. All, however, fled before him as he advanced — but a kind Providence happily conducted him, parched with thirst, to the same little rill in the evening; there he spent also the second night. M. Riche in his report to the Admiral, says with much feeling, "I was on the point of fainting from weakness, when on the coast of the salt water lake, I perceived a spring of pure water; even an Atheist meeting with so unexpected a source of happiness, could not fail to be struck with the benevolence of a kind

Providence." Notwithstanding the distress to which his situation had reduced him, exposed as he was to all the horrors of famine, M. Riche carried during these two days a numerous collection of very interesting productions of the country he had traversed, but during the third day, his strength sunk so rapidly before he reached the boat, that he was obliged to abandon the whole collection, not being able to reserve even the most precious articles.

Yet, in this exhausted state, he made his observations on the singular motions of the Kangaroo, and the elegant gambols of their young, at that period but little known in natural history, and declares that the pleasure he experienced in seeing them made him almost forget his distressing situation. The natives always left their fires as he approached, and returned to them as soon as he had retired. The plant called in Africa Hottentot bread, Mesembryanthemum edule (eatable) was in abundance on the sandy plains, but the natives had carefully gathered all the ripe fruit, so that he was entirely confined to Leucopogon for support.

The last notice we possess of Mr Riche is, that he fell a victim to his love for science, having made, when already in an advanced stage of consumption, a long and fatiguing journey, in which he consulted his scientific zeal more than the state of his health.

The celebrated botanist Mr R. Brown, has substantially perpetuated his memory by giving his name to a very singular plant, likewise of this order, growing abundantly on the summit and sides of Mount Wellington, near Hobart-town. T.

ON COLLECTING SPECIMENS OF NATURAL HISTORY.

SHELLS.

As the subject of this paper is rather an inroad on the design of a Horticultural Register, I shall endeavor to be as brief as is possible consistently with the information intended to be conveyed, yet unless this information is clearly given, the article were better omitted altogether.

Shells are found on land, in fresh water, in the estuaries of rivers, at various depths in the sea, moving about or attached in different ways to the rocks on the sea shore, particularly at low water. Some penetrate the rock, and can only be obtained by carefully breaking it; others are on sea-weed or under the heaps of marine refuse on

the beach. They are divided into three classes, — Bivalves, consisting of two pieces, as the oyster, clam, &c.; Multivalves, of several pieces, as the common barnacle which adheres to the bottom of ships; and Univalves, of one piece—these are sometimes spiral, like the snail, or without a spire, and conical, as the limpet. Two things are necessary to fit all shells for the cabinet: the first is that they should not be water worn. Nature has endowed the animal which inhabits the shell with power to encounter or resist the force of the impetuous waves, and protect itself from being rubbed or dashed to pieces between the moving pebbles; but when the creature has fallen a prey to its natural enemies, or is in any way deprived of life, its habitation is at the mercy of the tides, and is generally so worn and rubbed down as to destroy the outlines of its beautiful construction — such are therefore useless. The second is, that when gathered in a perfect state they should be carefully packed, that none of the delicate and elegant spinous processes which project from the surface be broken. Some of the bivalves, as the mussel, may, when the animal is removed, be opened wide without injury to the shell; but others of this class have interior projecting teeth near the hinge, or exterior projections behind it, liable to be broken if opened far; a few bivalves have also additional pieces of shell, called accessory valves or appendages, sometimes on the back, sometimes in the interior, attached to the animal near the hinge; these must be carefully preserved whole, and also the edges of every shell, particularly those of the mouths of univalves. Some shells have an exquisite natural polish, owing to their being much enveloped in what is called the foot of the animal; this a collector would not endeavor to improve. But others are covered with a crust or skin called the epidermis, thin, and either loosely attached or firmly fixed. This, although not often beautiful, belongs to the natural history of the animal and should therefore not be removed. One other part it is also necessary to preserve; a horny or shelly appendage, called the operculum; it is attached to some species of spiral univalves, and when they retire wholly within their shells it serves firmly to close the orifice or mouth.

The most effectual method of collecting shells is by means of an iron dredge in this form, with the fine net* *a* attached; *b* is the straight iron edge intended to scrape along the bottom under water; this may be let down from a boat or the side of a

*The net should hang loose, although represented as stretched out in the cut.

vessel when in shallow water, and dragged along until the net bag is full, when it may be drawn up and the contents examined. In raising it from the water, the iron edge should be kept outside, that it may not catch and be overturned.

To drag this instrument properly along, some little management is necessary; if it drags too heavily, the rope should be shortened. It works best when the end to which the rope is fastened is about a foot from the ground. There should also be a small rope attached to the back of the dredge to pull it back if it should get foul of the rocks, weeds, or other obstructions. Where wharves are constructing, or jetties carrying out into the sea, they are frequently filled up with sand from the beach, raised by large dredging machines worked by steam or animal power; this affords an excellent opportunity for collecting shells. On coral coasts, which abound in the tropics, it is impossible to use the dredge, and the finest shells are collected by bathers and those who dive.

Those which adhere to rocks, as the limpet (Patella) or chiton, may be taken by pouring hot water on them or pushing a knife or piece of stick under the shells to prevent the action of their sucking valves; this last method, however, is apt to break the edge.

Having collected the shells, they should be put with as little delay as possible into nearly boiling water. With many this will almost immediately contract the animals and loosen the ligaments which attach them to their habitation; they can then be drawn out by pieces of hooked wire, or in bivalves, as the oyster, a piece of blunt stick will easily detach it. Should they not readily loosen, a few days remaining in the water will ensure success. Shells which are found empty, usually called dead shells, are seldom worth preserving, if those with the animals in them can be procured. When clean and dry, pack the delicate and thin specimens in soft grass or cotton wool; the larger and harder ones may be wrapped in double paper and placed in a box, except when there are the before-mentioned spinous or other projections; these must be carefully protected from injury. Bivalves should be tied firmly together with twine or worsted to keep the shell closed so that the teeth which are situated near the hinge are not rubbed down. It would be desirable to have at least two of each sort, with the animals in them, or if the shells are too large, the animals alone, preserved in bottles with a strong solution of salt and water or weak spirits. In crossing the Trades, I took a quart bottle full of small animals preserved in weak spirits, collected

from the masses of floating sea-weed, which twelve months afterwards, on my return to Europe, afforded much gratification to several naturalists, amongst whom I divided them. If a large tub could be procured and the bottom covered with three or four inches of sea sand, then nearly filled with sea water and a coarse cloth tied round the top, so that the air might be admitted through the interstices of the cloth, many animals with their shells might be preserved alive during a short voyage, and afford an opportunity of examining their wonderful structure and habits. I will postpone until my next communication a few remarks on collecting land and fossil shells. J. E. T.

HORTICULTURE NEAR BOSTON.

Since our last notice on this subject we have had the pleasure of passing through the various conservatories in the grounds of Col. T. H. Perkins of Brookline.

How beautiful and refreshing to the eye during the dreary winter is the Hemlock Spruce (Abies canadensis) feathered to the very ground with its slender branches of dense yet graceful foliage! How pleasing its contrast with the silver fir (Abies balsamifera)! both in perfection here. The hemlock spruce planted singly on an extensive lawn is a study for an artist, and mingled with other evergreens of the coniferous tribe in a deep belt at some distance from the mansion would afford a considerable protection against the northern blast, as well as soften and enliven the sombre effect of the darker surrounding masses. Materials for embellishing the face of this country at all seasons of the year by judicious plantations, are indeed strikingly abundant.

In the extensive central glass structure of the range which is devoted entirely to flowers, we were delighted to see the plants in such perfect health and order; the Camellias, always the most showy and attractive at this season, were in great beauty and variety; some of the double white appeared the largest we ever remember; still with due deference to this charming tribe, we were more interested with the flowers of Enkianthus quinqueflora, a rare plant from China of the Erica (heath) family: imagine clusters of pinkish

white pendulous flowers in this form, *n* the swelling nectaries of a most brilliant lake color, so transparent that the liquid honey in the interior cell may be easily discerned, *p* the summit of the pistil, which although small is of the brightest and clearest emerald green, a perfect gem, defying the talent of the painter; the anthers concealed by the natural position of the flower, are exceedingly curious, dry and chaffy, a distinctive character of the Ericea, and aristate (bearded or awned) with beautiful symmetry.

Mr John Bellenden Ker in a note attached to a splendid drawing of this plant in the East India Company's collection in London, informs us, that it is indigenous in some parts of the province of Canton where it is called Tsiau-Tsung, and is held in a kind of veneration by the people, the flowers being considered an acceptable offering to their deities; accordingly at the Chinese new year, which occurs about the season of blossoming, they decorate the interior of their temples with large flowering branches of this delightful shrub.

Sparmannia Africana, an old but still a deserving favorite of the European greenhouse, was there in all its beauty, presenting clusters of snowy white flowers, with numerous stamens of dark rich crimson thickly interspersed with the very singular bright yellow filamentous nobbed nectaries. This plant was introduced into England in 1790 from Africa by Mr Masson and named in honor of the zealous Andreas Sparmann, who travelled in China, and in the interior of Africa as early as 1775, when the dangers and difficulties were infinitely more appalling than at present, and who eagerly accepted the offer of the celebrated Captain Cook to accompany him in one of his circumnavigations, actuated solely by his ardent love of natural history. Sparmann was afterwards chosen president of the Swedish Academy of Sciences at Stockholm where he died in 1820. No other variety of this plant has yet been discovered.

Strelitzia Augusta is however the rarest plant in this collection; it is large and in perfect health, but does not yet exhibit signs of blossom. We have repeatedly seen S. regina in flower, and several times S. juncea, the orange and blue colors of which latter are considerably darker and more brilliant than those of the former; of Strelitzia Augusta we have never seen either plant or flower in Europe, nor has a drawing of it yet been given in any botanical work except in Ker's

Strelitziæ Icones, which is a collection of colored plates of this genus alone, and is rarely to be met with; from its appearance here a splendid bloom may be expected, and we trust the excellent and attentive head of this establishment, Mr Cowan, will have permission to inform us should one come to perfection.

Time would not permit us to notice as we could have wished numerous other rare and beautiful specimens of plants which flourish in this charming assemblage.

The trees in the Peachery occupying the right wing of the building appeared to us trained in the perfection of the art, the bark clean and bright, the buds in a healthy state — fearful of admitting the frosty air into the Vinery we did not enter, but Mr Cowan informed us that the fruit had set and was already of some size. Coiling the vine in pots was in active progress.

We cannot quit this subject without expressiug our delight at seeing wealth flow into this channel; after the gratification of assisting our fellow creatures, the gratification of our own taste becomes most agreeable to us, and we sincerely believe this taste for flowers is productive of great happiness: — a splendid palace may please the eye, but the impression is always the same, while the beautiful and periodically renewed forms of vegetable life, are infinitely varied and ever exciting by their almost inexhaustible novelty. The permission to visit and explore these temples of Flora is to us personally a great treat, for however we may be pleased with descriptions and drawings, or delighted with dried specimens from the Tropics, they sink into insignificance compared with the living plants or flowers. J. E. T.

MASSACHUSETTS HORTICULTURAL SOCIETY.

The season has not yet permitted any exhibitions or proceedings of interest to the public, if we except a splendid Bouquet displayed at the rooms of the Society on Saturday, 14th February, by Messrs Winship, from their establishment at Brighton. It consisted of Clerodendron fragrans, Rivina humilis, Diosma alba, Arctotis aureola, Metrosideros lanceolata, Justicia cærulea, Bletia hyacinthina, Alonsoa acutifolia, Iris chinensis, Calla Ethiopica, Heliotropium grandiflorum and peruvianum, Pelargonium ardens and comptum, Pittosporum album, with Primula prænitens in variety, Bellis, (daisy) new French tea and

other roses; and also one displayed on the 21st of the same month by Mr Thomas Mason, of Charlestown Vineyard, containing Pæonia moutan, variety Banksii, Azalea indica and purpurea, Iris chinensis, Illicium floridanum, Camellia pompone, Correa alba, Gnaphalium glomeratum, Cyclamen persicum and coum, Verbena melindres, Salvia fulgens, Polyanthus, Viburnum tinus, Primula, Geranium, Lavandula spica, Cineraris cruenta, stocks, roses, &c.

Mr Robert Manning of Salem also sent a basket of the Danvers winter sweet apple in perfect preservation.

We can only augur well of a Society which induces such delightful and creditable exhibitions after a winter of unexampled severity, and doubt not it will take a decided rank among similar societies in the United States.

NOTICES OF FOREIGN PUBLICATIONS.

Loudon's Gardener's Magazine for January is an extremely interesting number. The first article is a brief account of Mr Colley's botanical researches in Guiana, the country beyond Demerara, by Mr Isaac Bateman of Cheshire, who sent him out for that purpose. His collection was rich in Orchideous plants, above sixty of which he succeeded in bringing home alive; one third of these are supposed to be new; the Amaryllis tribe he found rare. By a singular coincidence he met with an Indian who had accompanied the celebrated naturalist, Mr Waterton, and who was with him during the never-to-be-forgotten conflict with the cayman (alligator).

There is another article of much interest, on a successful mode of bringing tropical plants into a flowering state, by reducing them to a single stem, rubbing off all the lateral buds; a few are left near the top for cuttings; as soon as these have struck and are growing, the same plan is adopted, throwing away the parent plant; this process is pursued until flower buds appear; the laterals are then left and will also produce flowers. This is founded on the system of increasing the length or height of plants, and has succeeded with many which have resisted every other attempt, and with one which even in its native country, Madagascar, rarely produces flowers.

Copious extracts, containing descriptions of apples and pears, are made from the New American Orchardist, by Mr Kenrick of Newton.

The fruits named are all in course of trial in the London Horticultural Society's Garden at Chiswick. We have no doubt they will fully maintain the character Mr Kenrick has given of them, and the results will be made known in Mr Loudon's work. A general list of the most preferable sorts of fruits and of vegetables is given. Among the latter we perceive the Kentucky Celery mentioned as one of the best. In our next number we shall give a list of them.

A new botanic garden is in contemplation near London, for the purpose of containing all the indigenous plants of Great Britain. We trust many years will not elapse ere such a garden for American plants will be formed in this vicinity. We can hardly imagine any establishment which would create greater interest, particularly if combined with a few acres of fruit trees and vegetables, thus furnishing, altogether, a school where boys might serve a regular apprenticeship, and become practical and experienced gardeners, a class of men which we hope and think will be more and more in request in this country.

There are also many entertaining notices of remarkably fine trees and shrubs. Of one we extract a portion.

Brugmansia suavolens (formerly called *datura arborea*). Seventeen feet high, fortyfive feet in circumference, trunk at the surface of the earth eighteen inches round; it had at that time 600 flowers fully expanded, and a great many unexpanded; these flowers averaged one foot in length, and eight inches diameter. Their beauty and fragrance were beyond description; the plant occupied the centre of a large conservatory. It is a native of Peru, and somewhat resembles the common Thorn Apple or Apple of Peru, only the flowers are white and much larger, and it is more of a tree (arborescent); we have seen it once or twice exhibited at the rooms of the Horticultural Society in Boston, and know it to be in several greenhouses we have visited.

Eschsholtzia Californica. In the Annals of Philosophy there is a letter calling the attention of the medical and philosophical reader to the juice which exudes from this plant on breaking the stem; it is yellow, smells exactly like muriatic acid, and possesses in some degree the property of taking stains out of linens. It is one of the Papaveraceæ, the same family as the Poppy and the common Celandine, a yellow flower which grows under almost every stone fence, and has a yellow juice when broken.

Curtis's Botanical Magazine contains figures and descriptions of the following plants:

Habenaria gigantea, a large, handsome orchideous stove plant.

Microtis parvifolia and media, two small, green, orchideous plants, of little interest except to the scientific botanist.

Tropæolum majus, variety atrosanguinea, dark red colored nasturtium, a new and very beautiful variety. This we grew last summer, for the first time in this country. It is impossible for a colored figure to give an idea of its brilliancy; it does not seed freely, but may, like many other annuals, be preserved a second year by cuttings, taken off and stuck in July and August, and kept in the greenhouse. This treatment will, however, in all probability, make it less inclined to bear seed. There are several parcels of seed arrived here, therefore we hope to see it become general. It belongs to Octandria monogynia (eight stamens, one pistil) of Linnæus; Tropæoleæ, Natural arrangement; Anemone vitifolia, vine leaved anemone, Polyandria polygynia (many stamens originating below the seed vessel, and many pistils) of Linnæus; Ranunculaceæ, Natural arrangement, from the Nepal and Himalaya Mountains, according to Dr Wallich a most ornamental plant, growing in shady, moist situations; a pretty, delicate white flower.

Calandrinia speciosa, also Polyandria polygynia, Portulaceæ, Natural arrangement, same tribe as the common yellow weed, purslane, but much larger and shrubby; of a fine rose color, more like a small single pæony.

Anagallis monelli, variety Willmoreana, said to be raised by seed from Madeira. We do not, however, believe there is the slightest difference between this and the beautiful blue Anagallis monelli we have frequently seen in greenhouses here, the color of which, when once seen, it is difficult to forget. It belongs to the natural order Primulaceæ (primrose the type,) Pentandria monogynia (five stamens, one pistil) Linnæus.

MISCELLANEOUS ARTICLES.

COLLECTED BY T. G. F.

On the use of Camphor in Horticulture. — Camphor is dissolved in alcohol until the latter is saturated — the alcohol is then put into soft water, in the proportion of two drops to half an ounce. Withered or apparently dead plants, put into this liquid and allowed

to remain there from two to four hours will revive if they were not completely dead before put in. — *M. Drosto, in Trans. of Prussian Gard. Soc.*

To destroy the Grub at the Root of Cauliflowers, Cabbages, &c. — W. Mathers, gardener to Lady Palmer, near Leicester, Eng. states in Loudon's Magazine, in substance, that a small handful of soot, applied to the stems of cauliflowers and cabbages, in case of the grub at the root, earthing up the plants, was an effectual remedy against the depredations of the insects. Sea water, a weak solution of salt and water, lime water and soap suds have also been recommended for the same purpose.

New Plan of sticking Peas. — Procure a number of slim poles, about five feet long, and drive them into the ground at the distance of three or four yards. Pass a small line along the poles, taking a turn on each, within three inches of the ground; raise the next turn three inches, and so on in succession, till you have attained the common height to which peas rise. The tendrils of the peas seize and twist round these lines, and they are supported in a more attractive, and a more profitable manner than they are by the common stakes. When spread regularly along the lines they have a fine circulation of air, more advantage from sunshine, and pods can be pulled at all times without injuring the plants, and as the sparrows have no twigs to light on, the portion of the crop which they destroy and devour is saved. This mode is so cheap simple, and possesses so many advantages that it is likely to be soon generally adopted. — *Scotsman.*

Fruit Trees might and ought to be planted by walls, hedges, on side-hills and by the sides of high-ways and by-ways, in lands too stony to till, and should occupy the places of useless shrubs and forest trees of little value, such as white birch, soft maples, &c. Millions of such trees might adorn places which are now barren of all useful vegetation, mere blanks or deformities, which give neither pleasure to the eye of the traveller, nor profit to the owner of the soil. It is remarked in "*Cobbett's Ride in France*" that "from Talmas to Saint Just," a distance of more than twenty leagues, apples and pears have been employed in this capacity, (to line the road side) for the whole distance.

A new method of obtaining early Peas. — Mr David Bishop in Loudon's Magazine makes the following remarks on this subject. "The method of rearing peas in pots and boxes, in hot-beds, and hot-houses, and afterwards transplanting them out in the open ground,

is a common practice with gardeners, and often succeeds very well; particularly if they are not too long in transplanting them; but I would recommend a method not so well known, as far preferable to that of pots or boxes, particularly when they are to be raised in a hot-bed. This consists in having a quantity of turf cut into pieces, of about nine or ten inches long, and three or four broad, which are placed in a regular manner over the surface of the bed, grass side downwards, and a row of peas is sown upon each row of turf, and afterwards covered with soil; when they are fit for transplanting, no more is required, than to lift out the turf piece by piece with the peas growing upon it, and place them where they are to produce their crop. By this measure the roots receive no injury; nor do the plants sustain the least cheek in transplanting. This method may be practised with similar success in the raising of potatoes, beans, &c."

Extraordinary use of the Nettle. — In a weekly newspaper of the Bavarian Agricultural Society, the nettle is said to have the following properties: 1. Eaten in salad it cures consumption; 2. It fattens horned cattle, whether eaten green or dried; 3. Experience has shown that it not only fattens calves but improves their breed; 4. It is an antidote to most maladies; 5. Sheep which eat it, bring forth healthy vigorous lambs; 6. It promotes the laying of eggs in hens; 7. It improves the fat of pigs; 8. The seeds, mixed with oats are excellent for horses; 9. It grows all the year round, even in the coldest weather, (in that climate); 10. The fibres of the stem make an excellent hemp.

The conductor of Loudon's Magazine observes, "The Bavarian oracle might have added that few plants force better or more rapidly, and that the tender shoots so produced, make a delicate and high flavored pot herb, resembling the points of the shoots of pompion.

"It is certain the nettle is much valued in Holland, where its shoots are used as a pot herb; its roots for dying yellow; where the horse dealers give the seeds to horses, to make them brisk and give them a fine skin; and where considerable portions of fields are planted with it, and mown five or six times a year as green food."

Some interesting experiments have been made by M. Zannettini in Italy, from which it appears that the flowers and seeds of the common nettle may with efficacy be substituted for Peruvian bark, in all febrile affections, especially in Tertian and Quartern agues. The native vegetable operates more speedily than the foreign bark; and, in large doses induces a lethargic sleep; the portion to be given ought

never to exceed one drachm, and should be administered in wine two or three times in the course of twenty four hours. The same cautions that are necessary in the use of Peruvian bark are likewise to be observed in taking the seeds and the flowers of the nettle. Lastly M. Zannettini recommends a slight infusion of the latter, in wine, as an excellent preservative for those who reside in marshy and unwholesome situations.

Stearn's American Herbal observes, that "the juice of the nettle snuffed up the nose stops its bleeding; and a leaf put upon the tongue, and pressed against the roof of the mouth is good for the same disorder.

"Stinging the parts affected with nettles, helps the palsy, lethargy, and febrile stupidity; for the last complaint, the leaves may be applied to the arms, legs and thighs."

On the whole, from the above, and other testimony in favor of the common nettle, we are inclined to believe that this plant, generally thought to be very useless, troublesome and insignificant may be worth cultivation. At any rate, it cannot be amiss for us to be acquainted with its properties, and to avail ourselves of such as are useful, whether we do or do not conclude to domesticate it.

Winter Management of Bees. — A writer for Loudon's Magazine states that "In a severe winter bees are for the most part asleep, and do not eat much of their honey; in a mild winter they are in motion, and eating, and have not an opportunity of renovating their stores from flowers. Keeping these facts in view, the owner of the bees put them to rest in the month of October, by burying them in a peat stack; and did not restore them till the willows were in blossom in the following April. The success was most complete, and the practice worthy of imitation in other districts, by placing the hives in cold dark cellars, or in ice-houses.

Yeast as a Manure. — An English writer observes that "It is not generally known that yeast is one of the most powerful manures in existence. Some experiments have been tried with grass plats and different culinary vegetables, from which it appears that a very small quantity of yeast, after it has become putrid and useless to the brewer or baker, will effect wonders when mixed with water and applied to plants as a liquid manure. The only danger seems to be in making it too rich."

Sloping Rows for Plants.—In some remarks on transactions of the Horticultural Society of London, Mr Loudon observes, "As an

excellent combination for the growth of vegetables in the open garden, we would suggest the formation of beds in the direction of east and west, the surface of the bed sloping to the south, the steeper the better; on these beds sow or plant herbaceous vegetables and fruits, if in rows let them be from north to south, or across the beds."

CHARCOAL DUST, AS A TOP DRESSING FOR ONIONS. — In a letter on this subject from Mr Thomas Smith to the Secretary of the London Horticultural Society, it is remarked in substance that charcoal dust, (which in his experiment was the refuse of a charcoal pit,) was spread upon the ground about half an inch thick, before the sowing of the seed, and merely scuffled in with the point of the spade, so as to mix the top soil and charcoal dust together. Six years' experience have convinced Mr Smith that it is a remedy for the grub, and mouldiness in onions; and he has repeatedly proved, that it effectually prevents the clubbing in the roots of cabbages and cauliflowers.

ACCELERATING CULINARY VEGETABLES. — The inhabitants in the neighborhood of Louvain, even to the humblest cottager, are remarkable for the culture of their gardens. Many of them sow in winter, in pots, or boxes, and preserve in their chambers, peas, beans, kidney beans, potatoes, &c.; and when the weather is sufficiently mild in spring they transplant them into the open garden, carefully covering them every evening with straw, or haulm of any kind to protect them from accidental frosts. The consequence is crops in maturity nearly a month before those sown in the open ground in the usual manner.— *Bulletin Univ.*

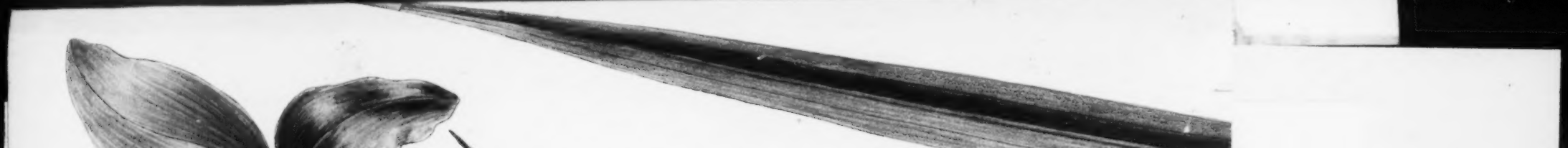
EMPLOYMENT OF LUNATICS IN AGRICULTURE.—Brussels, Antwerp, and a number of surrounding cities, instead of confining their lunatics to hospitals, pension them out among the farmers, where all of them improve in health, some of them make tolerable workmen, and a few recover entirely.—*Jour. d'Agr. des Pays Bas.*

GARDENER'S WORK FOR MARCH.

EARLY Peas may be sown or planted as soon as the ground is sufficiently thawed. Be sure to plant an early sort, if you wish for an early crop, and after the ground has acquired a temperature favorable to vegetation, you will do well to sow once a fortnight from this time to about the first of July. One pint of the small early kinds will sow a row of twenty yards; for the larger sorts, or main crops the same quantity will sow a row of thirtythree yards. Drills for the small sorts one inch and an half deep; two feet and an half or three

feet apart, and along the drill about three peas in the space of an inch. A loose and warm soil, with a little decomposed vegetable matter, and but little or no stable manure are best for peas. Lettuce may be sowed as soon as practicable between vacant rows, intended for other plants, or it may be grown by itself in beds. A quarter of an ounce is seed enough for a bed four feet by ten. As soon as the weather is mild enongh you may transplant such cabbage plants as were sown in autumn, or in hot beds. Also sow seeds of every kind of cabbage, which you intend to cultivate. If you wish to produce early cabbages, you may cut sprouts from stumps, or stalks, preserved in a cellar, through the winter, as soon as such sprouts have grown to a length fit for cutting. Take with each a small slice of the stalk, about two inches long; and as soon as the season will permit plant them in a garden, and with the usual care they will give you early cabbages. You may also select from your cellar the best cabbages with heads, and set them in some proper place to stand for seed. Attend to your beds of asparagus, dress the old beds, and make new ones if wanted. If the seeds are sown to transplant, you will need about a quart for a bed four and an half feet wide by six feet length. If sown to remain, for a bed four and a half feet wide by thirty feet in length, one pint is about the proper quantity. Sow the garden cress as follows: Having chosen a fine mellow soil to receive the seed, dig the surface, rake it, and put in the seed, very thickly, in small flat, shallow drills, four, five or six inches asunder, and cover very lightly. Mustard, also, whether white or black may now or soon be sown either for seed or for salad. Sow moderately thick, either in drills from six to twelve inches asunder, or broad cast, and rake or harrow in the seed. Sow parsnips, "for a bed five feet by twenty, the plants to remain thinned to eight inches distance, half an ounce of seed is the usual proportion." Carrots may also be sown towards the end of the month, thin in drills from eight to ten inches apart.

We shall feel obliged if our subscribers would correct the following errata in our last number.

Page 42 — line 26, for *pen* read *open*.
" 46 — " 16, for *;* read *,*
" 47 — " 16, for *farmer* read *former*.
" 64 — " 28, for *Panama* read *Canada*.
" 29 — for *Euphorbium* read *Euphorbia*, throughout.
" 70 — line 4, for *the almost* read *this almost*.
" 75 — " 19, for *tender annual* read *tender perennial*.

For the Horticultural Register.